

at least one air inlet for engine intake air; and
an air intake silencer coupled to said air inlet and integrally formed with
said motor cover, said air intake silencer comprising at least one air inlet pipe coupled to
said air inlet and at least one tuning tube in flow communication with said air inlet pipe,
said air inlet pipe and said tuning tube configured to cancel a portion of sound traveling
through said air inlet pipe.

Please cancel claims 13, 29, and 30.

REMARKS

Claims 1-30 are pending in the application. In the final Office Action of April 5, 2002, the Examiner rejected claims 1-5, 7, and 8 under 35 U.S.C. §102(b) as being anticipated by JP 60-022021. Claims 1-3 and 5-8 were rejected under 35 U.S.C. §102(b) as being anticipated by JP 03-229908. Claims 1, 2, and 5-8 stand rejected under 35 U.S.C. §102(b) as being anticipated by JP 05-163925. The Examiner then rejected claims 1,3, 5, 7-11, 14-16, 18, 21-23, 25, and 27-29 under 35 U.S.C. §102(b) as being anticipated by Nakayasu et al. (USP 5,660,571). Claims 1-5, 7, 8-12, 15-18, 20-25, 27, and 29 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Mondek (USP 5,129,847) in view of JP 60-022021. Next, the Examiner rejected claims 1-3, 5-12, 15, 16, 18-23, 25-27, and 29 under 35 U.S.C. §103(a) as being unpatentable over Mondek in view of JP 03-229908. Applicant appreciates the Examiner's indication of allowability

of claims 13 and 30. Applicant likewise appreciates the Examiner's consideration of the remarks filed January 18, 2002.

Regarding the Examiner's rejection of claims 1-5, 7, and 8 under 35 U.S.C. §102(b) as being anticipated by JP 60-022021, Applicant respectfully refers the Examiner to the amendment set forth above wherein Applicant has amended claim 1 to call for the at least another tuning tube as having a first end and a second end such that the ends are in fluid communication with the inlet passage of the air inlet pipe to form a tuning passage. JP 60-022021 teaches a pair of resonance chambers (17,18) separated by an on/off valve (21). Valve 21 defines the two resonance chambers which are clearly different from a tuning tube as claimed. In fact, the reference teaches a connection pipe (19) that connects the two resonance chambers to one another. Claim 1 is patentably different as the tuning pipe claimed includes a first end and a second end that communicate directly with the inlet pipe. The ends of the connection pipe (19) taught by the reference do not communicate directly with duct (13), but communicate directly with chamber (17,18). As such, Applicant respectfully believes that which is called for in claim 1 as amended herein is patentably distinct from that taught or suggested by the reference.

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The Examiner also rejected claims 1-3 and 5-8 under 35 U.S.C. §102(b) as being anticipated by JP 03-229908. The Examiner asserts that JP 03-229908 shows an air intake silencer for an internal combustion engine having a straight inlet pipe with an inlet passage, a first tuning tube with a tuning passage in fluid communication with the inlet passage, and a second tuning tube in a wrap around relationship with the first tuning tube.

That which the Japanese reference regards as a connection passage has been designated as a first tuning tube by the Examiner. The Examiner has considered that which the Japanese reference designates as a first resonance chamber as a second tuning tube in a wrap around relationship with the first tuning tube. As best shown in Fig. 1 of JP 03-229908, that taught by the reference is substantially different from that which is called for in amended claim 1. Specifically, the reference teaches a first resonance chamber (1) formed integrally with an air intake pipe (6), the chamber (1) and pipe (6) communicate via a single opening (12). Claim 1, as amended herein, calls for a tuning tube that communicates directly with an intake pipe via a first and a second end. The “tuning tube” (1) taught by the reference communicates with pipe (6) at only one end. As such, Applicant believes that which is called for in amended claim 1 is patentably distinct from that taught by the reference.

While Applicant believes that claim 6 is in condition for allowance as dependent upon an allowable claim, Applicant believes that which is called for in claim 6 is not taught or suggested by the reference. The Examiner considers that which is described by the reference as a resonance chamber (1) is equivalent to the at least another tuning tube as called for in claim 6. Further, that which the Examiner considers to be a first tuning tube as described by the reference is a connection passage (3) between the first resonance chamber (1) and a second resonance chamber (2). To assert that the second tuning tube is in a wrap around relationship with the first tuning tube is to ignore that the reference fails to teach tubes altogether. That is, the reference teaches a first resonance chamber (1) and a second resonance chamber (2) connected to one another by a connecting passage (3).

Additionally the first resonance chamber is separated from the second resonance chamber by a partition (31). The silencer taught by JP 03-229908 effectuates noise reduction by use of the pair of resonance chambers independent of the connecting passage link. That is, as best understood by Applicant, the effectiveness of noise reduction in the silencer taught by the reference is a function of the volume of the first resonance chamber and the second resonance chamber and is independent of the length of the connecting passage.

WRONG.

Further, claim 6 calls for another at least one tuning tube wherein the at least another tuning tube is in a wrap around relationship with the at least one tuning tube. The relied upon Japanese reference clearly fails to teach this inter-relationship between the tuning tubes. Notwithstanding that the reference fails to teach tuning tubes, but rather teaches first and second resonance chambers, the resonance chambers taught by the reference are clearly not in a wrap around relationship to one another. As shown in Fig. 1 of the Japanese reference, the second resonance chamber (2) is disposed at one end of the first resonance chamber (1). A partition (31) is then used to separate the first and second resonance chambers from one another. Therefore, Applicant respectfully believes that which is called for in claim 6 is patentably distinct from that taught and suggested by JP 03-229908.

The Examiner also rejected claims 1, 2, and 5-8 under 35 U.S.C. §102(b) as being anticipated by JP 05-163925. The Examiner asserts that this reference shows an air intake silencer for an internal combustion engine having a straight inlet pipe with an inlet passage, a first tuning tube with a tuning passage in fluid communication with the inlet passage, and a second tuning tube in a wrap around relationship with the first tuning tube.

As shown in Fig. 4, this reference, in fact, teaches a resonance muffler chamber (2) formed in a cylindrical vessel that is coaxially fitted to an outer periphery of an intake duct (1) serving as an air flow pipe passage. The air flow pipe passage (1) includes a neck portion (4) to allow communication between the intake ducts (1) and a first chamber (2a) and a second chamber (2b) of resonance muffler chamber (2). That is, the reference teaches a first and a second resonance chamber separated by a partition plate (6) to effectuate noise reduction of air passing through intake duct (1). The Examiner asserts that connection port (4) is equivalent to a first tuning tube as called for in claim 1. Claim 1, however, has been amended to further define the tuning passage as extending from a first end and a second end of the tuning tube which are in fluid communication with the inlet passage of the air inlet pipe to form the tuning passage. As further shown in Fig. 4 of JP 05-163925, the reference describes a communication port (5) formed by a hole (3) and a neck (4). However, only one end of the communication port is in fluid communication with an inlet passage of intake duct (1). As such, Applicant respectfully believes that which is called for in amended claim 1 is patentably distinct from that taught or suggested by JP 05-163925.

The Examiner also rejected claims 1-3, 5, 7-11, 14-16, 18, 21-23, 25, and 27-29 under 35 U.S.C. §102(b) as being anticipated by Nakayasu et al. With regard to the rejection of claim 1, Applicant respectfully refers the Examiner to the amendment made herein wherein Applicant has further defined the at least one tuning tube such that the first end and the second end are in fluid communication with an inlet passage of an air inlet pipe to form a tuning passage wherein the tuning passage extends for a length

selected to cancel noise of at least a first selected frequency passing through the inlet pipe. As best shown in Fig. 1 of '571, Nakayasu et al. teaches a silencing device (33) which defines an expansion chamber (34) which may be formed in part by a transom (12). The expansion chamber is configured to draw air through a restricted air inlet opening (35) from a further expansion chamber (37) formed by separate baffle member (38) as affixed to the hole (13) and which encloses the silencing device (33). Col. 3, Ins. 18-24. Expansion chamber (37) further includes an upwardly facing air inlet opening (39) for allowing air to enter expansion chamber (37). The silencing device further includes an opening (42) that communicates with duct (41) to allow expansion chamber (34) to deliver air to cavity (31).

In another embodiment, Nakayasu et al. teaches a silencing device (55) having three expansion chambers (59, 61, 62) that respectively communicate with each other. Col. 4, Ins. 1-5. Nakayasu et al. further teaches an atmosphere air duct (63) that admits atmospheric air beneath the hole portion (54) into expansion chamber (59). Nakayasu et al. further teaches conduit (74) which may be connected to expansion chamber (59) with another silencing device. Silencing device (55) further includes a conduit (67) that allows for air to be supplied to cavity (21). However, Nakayasu et al. does not teach or suggest a tuning tube that communicates with an inlet passage of an air inlet pipe at a first end as well as a second end such that the first end and the second end form a tuning passage having a length selected to cancel noise of at least a first selected frequency passing through the inlet pipe. Simply, the tuning tube as called for in amended claim 1 is patentably distinct from the expansion chambered silencing device taught by Nakayasu

et al. As such, Applicant respectfully believes that which is called for in amended claim 1 is patentably distinct from that taught or suggested by Nakayasu et al.

With regard to the rejection of claims 9 and 21 under 35 U.S.C. §102(b), Applicant has amended claim 9 to incorporate the subject matter of claim 13 and has amended claim 21 to incorporate the subject matter of claims 29 and 30. In the final Office Action, the Examiner had indicated the allowability of claims 13 and 30 if written in independent form including all the limitations of the base claim and any intervening claims. Therefore, Applicant respectfully believes that which is called for in amended claims 9 and 21 is patentably distinct from that taught by the references relied upon by the Examiner.

Regarding the Examiner's rejection of claims 1-5, 7, 8-12, 15-18, 20-25, 27, and 29 under 35 U.S.C. §103(a) as being unpatentable over Mondek in view of JP 60-022021 and the rejection of claims 1-3, 5-12, 15, 16, 18-23, 25-27, and 29 under 35 U.S.C. §103(a) as being unpatentable over Mondek in view of JP 03-229908, Applicant respectfully refers the Examiner to the amendments made herein as well as the remarks set forth above which are incorporated herein. Specifically, Applicant respectfully believes that which is called for in amended claim 1 is patentably distinct from that taught by JP 60-022021 and JP 03-229908. As such, notwithstanding the teachings of Mondek, Applicant believes that which is called for in claim 1 is neither taught nor suggested by Mondek or the Japanese references taken singly or in combination. As such, Applicant respectfully believes the rejections of claim 1 under 35 U.S.C. §103(a) have been traversed.

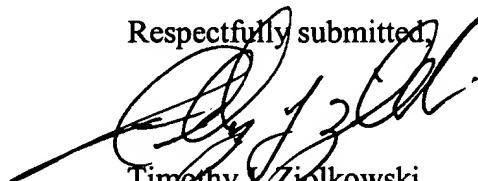
Applicant again appreciates the Examiner's indication of allowability of claims 13 and 30. Applicant directs the Examiner's attention to claims 9 and 21 which have been amended herein to incorporate the subject matter of claims 13 and 30, respectively.

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Therefore, in light of the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As such, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-12 and 14-28.

Marked-up versions of the amendments made above may be found on pages 11 and 12.

Applicant appreciates the Examiner's consideration of these Amendments and Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,

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REVISIONS

1. (~~Once~~Twice Amended) An air intake silencer comprising:
at least one air inlet pipe comprising a first end, a second, end, and an inlet
passage therethrough; and
at least one tuning tube comprising a first end, and a second end, and a
~~tuning passage therethrough, said tuning passage~~first end and said second end in direct
fluid communication with said inlet passage andto form a tuning passage, said tuning
passage extending for a length selected to cancel noise of at least a first selected
frequency passing through said inlet pipe.

9. (~~Once~~Twice Amended) A cover for an outboard motor comprising:
a lower cover;
an upper cover configured for attachment to said lower cover; and
at least one air intake silencer ~~attached to~~integgrally formed with one of
said upper cover and said lower cover and comprising:
at least one air inlet pipe comprising a first end, a second end, and
an inlet passage therethrough; and
at least one tuning tube comprising a first end, a second end, and a
tuning passage therethrough, said tuning passage in fluid communication with
said inlet passage and extending for a length selected to cancel noise of at least a
first selected frequency passing through said inlet pipe.

20. (~~Once~~Twice Amended) An outboard motor engine comprising:

a motor cover;

at least one air inlet for engine intake air; and

an air intake silencer coupled to said air inlet and integrally formed with
said motor cover, said air intake silencer comprising at least one air inlet pipe coupled to
said air inlet and at least one tuning tube in flow communication with said air inlet pipe,
said air inlet pipe and said tuning tube configured to cancel a portion of sound traveling
through said air inlet pipe.